REMARKS

Favorable reconsideration of this application in view of the following remarks is respectfully requested.

Claims 1-30 are pending in this application. Claims 16-22, 27 and 29 have been withdrawn from further consideration. Claims 1, 3-15, 23-25 and 30 being amended by way of the present Amendment to better characterize the present invention without introducing any new matter.

The outstanding Official Action makes the improper restriction final, presents an objection to the Abstract, an objection to Claim 24, a rejection of Claims 3-6 and 11-13 under thee second paragraph of 35 U.S.C. §112, a rejection of Claims 1-3, 7-15, 23-26, 28, and 30 as being "clearly" anticipated by Wakamoto et al (U.S. Patent No. 6,277,533, Wakamoto) under 35 U.S.C. §102(e), and a rejection of Claims 1-3, 7-15, 23-26, 28, and 30 as being "clearly" anticipated by Tanaka (JP-09306823).

Initially, Applicant acknowledges with gratitude the indication that Claims 4-6 are only objected to but would be allowed if rewritten to overcome the rejection under the second paragraph of 35 U.S.C. §112 and in independent form to include all the limitations of the base claim and any intervening claims.

With regard to the restriction requirement mailed May 8, 2002, it is noted that this requirement fails to make any showing that Groups I and II lack "unity of invention" as required by MPEP §1893.03(d) and 37 CFR § 1.475 since this is a national stage application filed under 35 U.S.C. §371. In this regard, MPEP §1893.03(d) establishes that the Examiner "must (1) list the different groups of claims and (2) explain why each group lacks unity with each other group (i.e., why there is no single general inventive concept) specifically describing the unique special technical feature in each group" (emphasis added). As MPEP

§800 restriction criteria was mistakenly used instead of the required showing of MPEP §1893.03(d), withdrawal of the clearly erroneous requirement and an Action on the merits as to all of pending Claims 1-30 is clearly in order.

With regard to the outstanding objections to the Abstract and Claim 24 and the rejection of Claims 3-6 and 11-13 under the second paragraph of 35 U.S.C. §112, these are believed to be overcome by the present amendment. If the Examiner disagrees or has other formal concerns, he is invited to contact Applicant's representative at the below listed telephone number so that mutually agreeable changes can be determined.

With regard to the rejection of Claims 1-3, 7-15, 23-26, 28, and 30 as being "clearly" anticipated by Wakamoto or Tanaka, it is first noted that 37 CFR §1.104(c)(2) requires that the particular part being relied upon from each of these references "must be designated as nearly as practicable" as these are references that are both complex and that show and describe inventions other than that claimed by Applicant. Moreover, note In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) ("When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference.").

Turning to independent Claims 1 and 23, it is further noted that contrary to the apparent position taken in the outstanding Action, neither Wakamoto or Tanaka disclose or suggest deciding between either a first focusing control mode or a second focusing control mode to be used when a pattern is transferred onto a divided area, where the decision depends on the surface condition of the divided area, with the first focusing control mode performing a tilt control of the substrate while the pattern is transferred onto the divided area and the second focusing control mode maintains a tilt of the substrate while the pattern is transferred onto the divided area as these claims recite. If the PTO disagrees, it is called

upon under the above-noted Rijckaert decision to "indicate where such a teaching or suggestion appears in the reference."

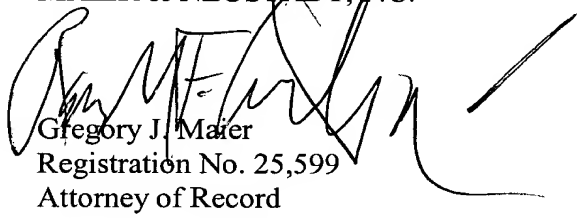
With further regard to independent Claim 14, neither Wakamoto nor Tanaka disclose or suggest deciding whether a tilt of the substrate in a predetermined direction is adjusted or not during exposure of a substrate based on information of convex and concave changes. While col, 9, lines 39-44 of Wakamoto mention convex and concave information of foreign material on the substrate this is not substrate information as to convex and concave substrate changes. Again, if the PTO disagrees, it is called upon under the above-noted Rijckaert decision to "indicate where such a teaching or suggestion appears in the reference."

With regard to dependent Claims 2, 3, 7-13, 15, 24-26, 28, and 30 that all depend from one of a previously mentioned independent claims, these dependent claims patentably define over Wakamoto and/or Tanaka for at least the same reasons as the respective independent claims do. In addition, each of these dependent claims add further limitations not disclosed or suggested by Wakamoto and/or Tanaka considered alone or in any proper combination.

As no further issues are believed to remain in the present application, it is believed that this application is clearly in condition for formal allowance. Consequently, an early and favorable action to that effect is therefore earnestly and respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Registration No. 25,599
Attorney of Record
Raymond F. Cardillo, Jr.
Registration No. 40,440

22850

(703) 413-3000
Fax #: (703) 413-2220
GJM:RFC/jmp

MARKED-UP COPY
Serial No.: 09/720,789
Amend. Filed: 11/19/02

IN THE CLAIMS

Please amend Claims 1, 3-15, 23-25 and 30 as follows:

--1. (Amended) A scanning exposure method for transferring a pattern formed on a mask to a divided area on a substrate through a projection optical system, [while said mask and said substrate are synchronously moved,] said scanning exposure method comprising the steps of:

determining a surface condition of the divided area;

deciding to use either a first focusing control mode [to be used] providing substrate tilt changing control or a second focusing control mode maintaining substrate tilt unchanged as a decided mode when said pattern is transferred onto the divided area [in a plurality of focusing control modes,] depending on [a] the surface condition of the divided area determined by the determining step; and

transferring the pattern formed on the mask onto the divided area [and] while performing said focusing control in the decided mode and while synchronously moving said mask and said substrate.

3. (Amended) The scanning exposure method according to claim 2, wherein

said [plurality of focusing control modes include a] first control mode [in which] performs a tilt control to change substrate tilt in a direction of said synchronous moving of said substrate [is performed by following-up the synchronous moving], and [a] said second

control mode [in which the tilt control] maintains unchanged substrate tilt in the direction of the synchronous moving of the substrate [is not performed by following-up the synchronous moving].

4. (Amended) The scanning exposure method according to claim 3, wherein

said surface condition of said divided area is represented as a spatial frequency distribution along said synchronous moving direction of said substrate [, on which a repeating unit area of said pattern to be transferred having convex and concave along the synchronous moving direction, wherein the repeating unit area is placed in said divided area] in respect to convex and concave changes along an optical axis direction of said projection optical system in a repeating unit area of the pattern to be transferred, the repeating unit area being within the divided area; and

a shape of said illumination area is represented as a slit width of said illumination area in the synchronous moving direction of the substrate.

5. (Amended) The scanning exposure method according to claim 4, wherein

said substrate is controlled by using said focusing control in said first mode when a predominant wavelength is equal to or longer than a length [depending on] corresponding to said slit width, [wherein] the predominant wavelength [is] corresponding to a predominant frequency [,which] that has a maximum amplitude in said spatial frequency distribution; and

said substrate is controlled by using said focusing control in said second mode when a predominant wavelength is shorter than the length [depending on] corresponding to the slit width.

6. (Amended) The scanning exposure method according to claim 5, wherein

said length [depending on] corresponding to said slit width is the slit width.

7. (Amended) The scanning exposure method according to claim 1, wherein

said surface condition of the divided area is [measured,] determined prior to said transfer of said pattern on said mask onto the divided area.

8. (Amended) The scanning exposure method according to claim 7, wherein

said surface condition of the divided area is [measured] determined in every lot of said substrate on which said pattern formed on said mask is transferred[,] prior to said transfer of the pattern.

9. (Amended) The scanning exposure method according to claim 7, wherein

said surface condition of said divided area is [measured] determined in every exposure process of said transfer of said pattern formed on said mask onto said substrate[,] prior to said transfer of the pattern.

10. (Amended) The scanning exposure method according to claim 7, wherein

a plurality of [said] divided areas are arranged on said substrate; and

said surface condition of said [substrate] divided area is [measured] determined [for] by determining the surface condition of one of the plurality of divided areas.

11. (Amended) The scanning exposure method according to claim 1, wherein

[said] a focusing control is provided that includes a focus position control [which] that controls a position of said substrate in an optical axis direction of said projection optical system; and

[on a decision] when it is decided that said focus position control [can not follow-up] cannot be performed, following said synchronous moving, a control is performed to maintain said substrate at a position just prior to the decision in an optical axis direction of said projection optical system [, wherein a position of the substrate in an optical axis direction of said projection optical system just prior to the decision is maintained, is performed].

12. (Once Amended) The scanning exposure method according to claim 1, wherein

[said] a focusing control is provided that includes a tilt control of said substrate in said synchronous moving direction; and

[on a decision] when it is decided that said tilt control [can not follow-up] cannot be performed, following said synchronous moving, a control is performed to maintain a tilt of the substrate just prior to the decision in said synchronous moving direction [, wherein a position of the substrate in an optical axis direction of said projection optical system just prior to the decision is maintained, is performed].

13. (Amended) The scanning exposure method according to claim 1, wherein

[said] a focusing control is provided that includes a tilt control [which controls said tilt of said substrate, wherein the substrate is moved in a plane perpendicular to said optical axis direction of said projection optical system and the tilt of the substrate in a direction perpendicular to said synchronous moving direction is controlled] of said substrate in a direction perpendicular to said synchronous moving direction and an optical axis direction of said projection optical system; and

[on a decision] when it is decided that said tilt control [can not follow-up] cannot be performed, following said synchronous moving, a control is performed to maintain a tilt of the substrate just prior to the decision in said direction perpendicular to said synchronous moving direction and said optical axis direction of said projection optical system [, wherein a position of the substrate in an optical axis direction of said projection optical system just prior to the decision is maintained , is performed].

14. (Amended) A scanning exposure method for exposing [said] a substrate[,] while moving the substrate in a predetermined direction relative to an exposure beam [which] that passes through [said] a projection optical system, and detecting a position information of said substrate surface in [said] an optical axis direction of the projection optical system, said

scanning exposure method comprising:

measuring [convex and concave] information based on convex and concave changes of said substrate surface[,] while moving the substrate in the predetermined direction in a condition that the substrate is not exposed; and

deciding whether a tilt of the substrate in the predetermined direction is adjusted or not during [an] exposure of the substrate[, by using] based on said information based on convex and concave changes [information measured, based on said position information detected].

15. (Amended) The scanning exposure method according to claim 14, wherein

deciding whether a tilt of the substrate in the predetermined direction is adjusted or not during [an] the exposure of the substrate is done so that a deterioration [of] in positioning accuracy of [said] an image plane of said projection system and said substrate surface is prevented.

23. (Amended) A making method of a scanning exposure apparatus[,which] that transfers [said] a pattern formed on [said] a mask onto a divided area on a substrate through a projection optical system, while moving [a] said mask and [a] said substrate synchronously, said making method comprising:

providing a mask stage [which] that holds said mask;

providing a substrate stage [which] that holds the substrate;

providing a first detecting system [which] that detects a position in an optical axis direction of said projection optical system of [for] at least one [of] detection point [in an optical axis direction of said projection optical system, wherein the detection point is in a] within an illumination area on a surface of said substrate [surface];

providing a first driving system [which] that drives the mask stage and the substrate

stage in [planes] a plane perpendicular to said optical axis direction [of said projection optical system];

providing a second driving system [which] that drives the substrate stage to at least one of the optical axis direction [of the projection detecting system] and [said] a tilt direction;

providing a memory unit [which] that stores [a] data representing a surface condition of said divided area; and

providing a control system [which synchronously moves the mask stage and the substrate stage by controlling the first driving system, while performing] that obtains a surface condition of he divided area, decides a focusing control mode to be used when transferring said pattern onto said divided area as being either a first focusing control mode or a second focusing control mode based on the obtained data representing the surface condition of the divided area, and performs said decided focusing control mode by controlling the second driving system based on a detection result from the first detecting system, while synchronously moving the mask stage and the substrate stage by controlling the first driving system, wherein [a focusing control mode to be used in the transfer of a pattern onto said divided area is decided from a plurality of focusing control modes based on the data representing the surface condition of the divided area] the first focusing control mode performs a tilt control of the substrate while said pattern is transferred onto the divided area and the second focusing control mode maintains a tilt of the substrate while said pattern is transferred onto the divided area.

24. (Amended) The making method according to [claim 24] claim 23, further comprising:

providing a second detecting system [which] that detects a tilt of said substrate stage in said synchronous moving direction and in a direction perpendicular to said synchronous

moving direction, in respect to a virtual plane perpendicular to said optical axis direction of said projection optical system [and in a direction perpendicular to the said synchronous moving direction].

25. (Amended) The making method according to [claim 23] claim 24, further comprising:

providing [an] a calculating [observation system which] operation unit that acquires [a] detection result data from said first detecting system during said synchronous moving under [said] a focusing control [,which] that maintains a surface of said substrate stage [surface] to be substantially parallel to said virtual plane[,] based on [said] a detection result from said second detecting system, and obtains [to obtain] said surface condition of said divided area based on said detection result data.

30. (Once Amended) A device manufacturing method including a lithographic process, comprising:

a predetermined pattern is transferred onto a divided area, which is divided by street lines on a substrate, by using [one of] said method according to any one of claims 1 to 15, and 26. --

IN THE ABSTRACT OF THE DISCLOSURE

Please amend the Abstract of the disclosure to read as follows:

--A main control system [20] determines [the] a mode of a focusing control based on [the] both data representing the surface condition of [the] a divided area and [the] data for [the] a shape of [the] an illumination area on [the] a wafer [W]. Then, the main control system [20] controls [the] actuators [21A, 22A and 23A] based on [the] detection[result] results from [the] a focus sensor [7], and performs the focusing control of [the] a substrate

stage [10] for holding the wafer [W through to the] in respect to a projection optical system [PL]. Simultaneously with the focusing control, the main control system controls [the] a wafer stage driving block [16] to control the synchronous movement of [perform the synchronous moving of the] a reticle stage [3] and [the] a substrate table [through projection optical system PL]. Thereby [the patterns] a pattern formed on [the] a reticle [R] is transferred onto the divided area on the wafer [W] via the projection optical system. Not premising [the] a high focusing control driving practicability, the pattern is transferred onto the substrate without serious deterioration of [the] imaging performance.--